Student Scientist Project 1
Instructor Sheet

What Makes a Happy Plant?

Project Notes:
Plants need a few things in order to live and grow the list is short but very important:

1. Sunlight
2. Carbon Dioxide – from the air
3. Water and minerals – from the soil

So Sow:
Your kids will get to investigate what plants really need…

What your kids really need:

- Copies of the What Makes a Happy Plant Adventurer Page
- 8 starter plants
- 4 Ziplock baggies
- 4 paper bags – heavy grocery bags are good, so light can't get through
- Rulers with metric system.

How to be a scientist:
In this experiment – your students (young scientists) will look at what plants need to survive – Air, Water, and Light.

- Set up the plants with the students use the "Setting up the Experiment" section for directions.
- All plants should be near a window to get sunlight
- Check all plants after few days, for growth - measure with a ruler.

Setting up the Experiment:

Each plant has a control agent – either water or light or air (CO_2) – The longer you run the experiment, the more dramatic the differences will be.
Be sure to label each potted plant – so your students can track their growth.

1. 1 plant has water, light, and air (IDEAL CONDITIONS) – should have the most growth (Moistened, no paper bag, and no baggie covering it)
2. 1 plant has water, light, and no air (Moistened, no paper bag, no air – covered in a closed Ziplock baggie with all the air removed sealed over the top part of the plant)
3. 1 plant has water, no light, and no air (Moistened, in a closed paper bag, covered in a sealed Ziplock baggie with all the air removed)
4. 1 plant has water, no light, and air (Moistened, in a closed paper bag)
5. 1 plant has no water, light and air (Dry – do not add water, no paper bag)
6. 1 plant has no water, no light and air (Dry in a closed paper bag)
7. 1 plant has no water, light, and no air (Dry with a Ziplock baggie with all the air removed sealed over the top part of the plant)
8. 1 plant has no water, no light and no air (WORST CONDITIONS, dry, in a closed paper bag, covered in a closed Ziplock baggie with all the air removed sealed over the top part of the plant)

Running the Experiment:

Each plant has a control agent – either water or light or air (CO_2) – The longer you run the experiment the more dramatic your results. You should let it go for at least a week. The students will measure the plants at the beginning of the experiment and again at the end. They will make a hypothesis about which one will grow the best, and check it at the end, and make their conclusions about plants needing enough air, water, and light to grow.